

Name : _____

Score : _____

Teacher : _____

Date : _____

Simplify the Radicals

1) $2\sqrt{20} =$

2) $7\sqrt{54} =$

3) $\sqrt{300} =$

4) $\sqrt{81} =$

5) $\sqrt{180} =$

6) $14\sqrt{98} =$

7) $\sqrt{144} =$

8) $16\sqrt{112} =$

9) $\sqrt{175} =$

10) $8\sqrt{128} =$

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Simplify the Radicals

$$1) \quad 2\sqrt{20} = 2\sqrt{4 \times 5} = 2 \times \sqrt{4} \times \sqrt{5} = 2 \times 2 \times \sqrt{5} = 4\sqrt{5}$$

$$2) \quad 7\sqrt{54} = 7\sqrt{9 \times 6} = 7 \times \sqrt{9} \times \sqrt{6} = 7 \times 3 \times \sqrt{6} = 21\sqrt{6}$$

$$3) \quad \sqrt{300} = \sqrt{100 \times 3} = \sqrt{100} \times \sqrt{3} = 10\sqrt{3}$$

$$4) \quad \sqrt{81} = 9$$

$$5) \quad \sqrt{180} = \sqrt{36 \times 5} = \sqrt{36} \times \sqrt{5} = 6\sqrt{5}$$

$$6) \quad 14\sqrt{98} = 14\sqrt{49 \times 2} = 14 \times \sqrt{49} \times \sqrt{2} = 14 \times 7 \times \sqrt{2} = 98\sqrt{2}$$

$$7) \quad \sqrt{144} = 12$$

$$8) \quad 16\sqrt{112} = 16\sqrt{16 \times 7} = 16 \times \sqrt{16} \times \sqrt{7} = 16 \times 4 \times \sqrt{7} = 64\sqrt{7}$$

$$9) \quad \sqrt{175} = \sqrt{25 \times 7} = \sqrt{25} \times \sqrt{7} = 5\sqrt{7}$$

$$10) \quad 8\sqrt{128} = 8\sqrt{64 \times 2} = 8 \times \sqrt{64} \times \sqrt{2} = 8 \times 8 \times \sqrt{2} = 64\sqrt{2}$$